

*Appendix 4  
(just front page)*

**United States Patent [19]**  
Hansen et al.



US005874540A

[11] Patent Number: 5,874,540  
[45] Date of Patent: Feb. 23, 1999

[54] CDR-GRAFTED TYPE III ANTI-CEA HUMANIZED MOUSE MONOCLONAL ANTIBODIES

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[21] Appl. No.: 318,1.7

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[22] Filed: Oct. 1, 1994

## [57] ABSTRACT

[51] Int. Cl. C07K 16/46; C12N 15/13;  
C07H 21/04

A humanized monoclonal antibody, comprising the complementarity-determining regions of a parental murine Class III, anti-CEA monoclonal antibody grafted to the framework regions of a heterologous antibody, wherein the humanized monoclonal antibody retains the binding specificity of, but is less immunogenic in a heterologous host than, the parental murine monoclonal antibody. A preferred murine Class III, anti-CEA monoclonal antibody is the MN-14 antibody and the preferred heterologous antibody is from a human. Also provided are DNA constructs and vectors for producing the humanized monoclonal antibodies, and diagnostic and therapeutic conjugates using same.

[52] U.S. Cl. 530/387.3; 530/388.85;  
530/388.8; 530/391.7; 530/391.3; 536/23.53;  
435/28; 435/69.7; 435/320.1; 424/1.49;  
424/178.1; 424/181.1

30 Claims, 16 Drawing Sheets

[58] Field of Search 530/307.1, 388.8,  
530/391.1, 391.3, 387.3, 388.85; 424/130.1,  
138.1, 1.49, 178.1, 181.1; 536/23.53; 435/328,  
69.7, 320.1

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